DOCUMENT RESUME

ED 233 908 SE 043 140

TITLE The Language of Energy: A Glossary of Words and Phrases Used in the Energy Industry.
INSTITUTION American Petroleum Inst., Washington, D.C.
PUB DATE 83
NOTE 22p.
AVAILABLE FROM American Petroleum Institute, 1220 "L" Street, NW, Washington, DC 20005.
PUB TYPE reference Materials - Vocabularies/Classifications/Dictionaries (134)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Coal; *Energy; *Fuels; *Geology; Glossaries; Industry; *Petroleum Industry; Power Technology

ABSTRACT

Provided is an alphabetical list or words and phrases commonly used in the energy industry. Entries range from such general terms as biomass, fossil fuels, and wetlands to such highly specific terms as Arab oil embargo of 1973-74 and Exxon Donor Solvent (EDS) Process. (JN)

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THE LANGUAGE OF ENERGY:

A GLOSSARY OF WORDS AND PHRASES USED IN THE ENERGY INDUSTRY

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GLOSSARY

A

acid rain -- acidity in rain or snow produced when carbon, nitrogen and sulfur compounds oxidize in the atmosphere.

active solar -- a system in which mechanical or electrical devices are used to transform solar energy into heat for space heating or other useful energy products. Contrasts with passive solar.

allocation controls -- government policy which specifies quantities of goods or services that potential customers may purchase. May also designate specific suppliers for such purchases. Crude oil and petroleum products were subject to federal allocation controls through most of the 1970s.

anthracite coal -- a variety of coal with a high heat content (22-28 million Btu per ton). U.S. production is primarily in northeastern Pennsylvania. It was once prized for home heating due to its low content of ash and other impurities. Also called hard coal.

aquifer -- underground water reservoir contained between layers of rock, sand or gravel.

Arab oil embargo of 1973-74 -- during the Arab-Israeli War in October 1973, Arab oil-producing nations agreed to cut off oil shipments to the United States and the Netherlands because they supported Israel. Arab producers simultaneously reduced output. In practice, the shortfall was spread among all oil-importing nations. World prices moved sharply higher. Price and allocation controls suppressed some of the increase in the United States but led to gasoline lines.

Areas of Critical Environmental Concern -- areas designated by the U.S. Department of the Interior to have historic, cultural, scenic or natural value that requires protection.

B

backfitting (or retrofitting) -- modifying equipment to make changes or add features that have been included in later models.

baghouse -- an air filtering device that removes particulates -- such as carbon or catalyst fines -- from furnaces and process unit exhausts.

balance of payments -- a tabulation of a nation's transactions with the rest of the world that shows the extent to which domestic goods, services and assets have been transferred to foreign countries and vice versa.

balance of trade -- the difference between receipts from foreigners for a nation's goods and services and payments to foreigners for imported goods and services.

barrel -- the standard measurement in the oil industry. A barrel of oil equals 42 U.S. gallons. The measurement originates from the wooden barrels used to transport oil in the early days of oil production.

basin -- a depression in the earth in which sedimentary materials have accumulated over a long period of time. A basin may contain many oil or gas fields.

benchmark price -- a benchmark is a standard by which things may be measured. A frequently used benchmark price of oil is the price set by OPEC for Arabian Light crude oil, a 34 degree gravity oil produced in Saudi Arabia. The other OPEC nations set their official prices in accordance with agreed differentials from the benchmark price.

Best Available Control Technology (BACT) -- the maximum degree of emissions control that a permitting authority determines to be achievable, considering energy, environmental and economic impact as well as other costs.

bcf -- billion cubic feet. The cubic foot is a standard unit of measure for quantities of gas at atmospheric pressure.

biomass -- any kind of organic substance that can be turned into fuel, such as wood, dry plants and organic wastes.

bituminous coal -- a variety of coal with high heat content (19-30 million Btu per ton) soft enough to be easily ground for combustion. The most widely mined and consumed coal. Also called soft coal.

bonus payment -- cash paid to a landowner or other holder of mineral rights by the successful bidder on a mineral lease in addition to any rental or royalty obligations specified in the lease. Most sales of oil and gas leases on federal lands (on or offshore) involve bonus payments to the federal government.

Btu (British thermal unit) -- a standard measure of heat content in a substance that can be burned to provide energy, such as oil, gas or coal. One Btu equals the amount of energy required to raise the temperature of one pound of water one degree Fahrenheit at or near 39.2 degrees Fahrenheit.

C

carbon monoxide emissions -- colorless, odorless toxic gas sent into the air when carbon molecules are burned incompletely. Nearly all forms of fossil fuel combustion emit carbon oxides.

cartel -- originally a combination of commercial enterprises which formally agree to limit competition by setting prices (often accompanied by output quotas). The term now refers to any group of enterprises that are suspected or accused of anticompetitive behavior. The Organization of Petroleum Exporting Countries (OPEC) has attempted to act as a cartel in the original sense.

coal gasification -- the chemical conversion of coal to synthetic gaseous fuels.

coal liquefaction -- the chemical conversion of coal to synthetic liquid fuels. (See direct and indirect coal liquefaction.)

coal slurry pipeline -- a pipeline used to transport coal long distances by mixing crushed coal with water and sending the liquid mixture (or slurry) through pipelines.

coal washing -- cleaning coal with water and certain additives before burning to remove some of the impurities. Most impurities tend to be heavier than coal and sink to the bottom of the water mixture, so the clean coal can be floated off.

cogeneration -- the combined production of electrical or mechanical energy and usable heat energy.

completed well -- a well made ready to produce oil or natural gas. Completion involves cleaning out the well, running steel casing and tubing into the hole, adding permanent surface control equipment and perforating the casing so oil or gas can flow into the well and be brought to the surface.

conventional sources of energy -- usually refers to oil, gas and coal (and sometimes nuclear power) as contrasted with alternative energy sources such as solar, hydro and geothermal power, synfuels, various forms of biomass energy, etc.

core -- samples of subsurface rocks taken as a well is being drilled.

crude oil -- liquid petroleum as it comes out of the ground. No two crude oils are exactly alike. They range from very light (high in gasoline) to very heavy (high in residual oil). Sour crude is high in sulfur content. Sweet crude is low in sulfur and therefore often more valuable.

crude oil equivalent -- a measure of energy content that converts units of different kinds of energy into the energy equivalent of barrels of oil.

cushion -- in discussions of natural gas, refers to the effects of a supply of low-cost, price-controlled gas. The Natural Gas Policy Act of 1978 set up an array of categories of natural gas, some of which are controlled at very low prices. A pipeline that has access to large amounts of this low-cost gas is said to have a deep cushion. This cushion could be used to pay above-market prices for other categories of gas and still enable the pipeline to sell gas at prevailing market prices.

D

decontrol -- removing government controls on prices and other factors of market activity. Price controls on crude oil began in 1971 and were phased out beginning in 1979. Controls on crude oil ended on January 28, 1981. Price controls on natural gas remain in effect.

deepwater port -- a marine terminal constructed offshore to accommodate large vessels, in particular large tankers. The terminal is connected to the shore by submerged pipelines.

demand -- the quantity of goods or services that an individual or group wants to buy at a given price.

development well -- a well drilled in an already discovered oil or gas field.

direct coal liquefaction -- a process by which liquid fuels are produced from the interaction of coal and hydrogen at high temperature and pressure.

distillate -- a generic term for several petroleum fuels that are heavier than gasoline and lighter than residual fuels. Home heating oil, diesel and jet fuels are the most common types of distillate fuels.

distributor -- a wholesaler of gasoline and other petroleum products. Also known as a jobber. For natural gas, the distributor is almost always a regulated utility company.

domestic production -- oil and gas produced in the United States in contrast to imported supplies.

downstream -- all operations that take place after crude oil is produced, including transportation, refining and marketing.

drill bit -- the part of the drilling tool that cuts through rock strata.

drill string -- lengths of steel tubing screwed together to form a pipe connecting the drill bit to the drilling rig. The string is rotated to drill the hole and also serves as a conduit for drilling mud. Also called the drill pipe or drill stem.

drilling mud -- an emulsion of water, clays, chemical additives and weighting materials that flushes rock cuttings from a well, lubricates and cools the drill bit, and maintains the required pressure at the bottom of the well. Examination of cuttings returned to the surface helps geologists evaluate underground rock formations.

drilling rig -- the surface equipment used to drill for oil or gas consisting chiefly of a derrick, a winch for lifting and lowering drill pipe, a rotary table to turn the drill pipe, and engines to drive the winch and rotary table.

dry hole -- a well that either finds no oil or gas, or finds too little to make it financially worthwhile to produce.

dry natural gas -- natural gas containing few or no natural gas liquids (liquid petroleum mixed with gas).

E

economic efficiency -- the absence of waste. If a given commodity can be produced by two techniques, the technique that minimizes cost (an aggregate measure of resources used) per unit of output is more efficient.

effluent -- any waste liquid, gas or vapor that results from industrial processes. May be harmful to the environment unless properly treated.

electrostatic precipitator -- a pollution control device that removes particulates from industrial stack emissions, preventing or greatly reducing their discharge into the atmosphere.

embargo -- a government order prohibiting commerce. Most frequently a prohibition on exports or imports of a given commodity to or from a nation or nations. See Arab oil embargo.

emissions -- gases and particulates discharged into the environment, usually the atmosphere.

end-use restrictions -- a legal prohibition on the use of a commodity. The Powerplant and Industrial Fuel Use Act of 1978 prohibits utilities and large industrial consumers from using natural gas as a boiler fuel in new installations.

energy-GNP ratio -- the amount of energy used to produce a dollar's worth of output, as measured by the gross national product or GNP.

enhanced oil recovery -- injection of water, steam, gases or chemicals into underground reservoirs to cause oil to flow toward producing wells, thus permitting more recovery than would have been possible from natural pressure or pumping alone.

Environmental Impact Statement (EIS) -- a statement of the anticipated effect of a particular action on the environment. An EIS is required of federal agencies by the National Environmental Policy

Act of 1969 for any significant action (including granting certain oil and gas permits).

equilibrium -- a market situation in which the quantities supplied by sellers matches the quantity demanded by buyers at the current price.

ESECA -- Energy Supply and Environmental Coordination Act, passed in 1974, which prohibited certain power plants with coal-burning capabilities from burning petroleum and required newly constructed fossil fuel boilers to be designed to burn coal.

ethanol -- the two-carbon atom alcohol present in the greatest proportion upon the fermentation of grain and other renewable resources such as potatoes, sugar or timber. Also called grain alcohol.

excise tax -- a tax levied on the production, sale or consumption of a commodity.

exploratory well -- a well drilled to an unexplored depth or in unproven territory, either in search of a new reservoir or to extend the known limits of a field that is already partly developed.

Exxon Donor Solvent (EDS) Process -- a direct coal liquefaction process that dissolves coal in a solvent while adding hydrogen and subjecting it to heat and pressure.

F

fault -- a displacement of subsurface layers of earth or rock that sometimes seals an oil-bearing formation by placing it next to a non-porous formation.

federal lands -- see government or public lands.

field -- a geographical area under which one or more oil or gas reservoirs lie -- all of them related to the same geological structure.

five-year offshore leasing program -- the first step in the process of leasing offshore lands for oil and gas exploration. The Department of the Interior publishes and annually updates a five-year plan of timetables and areas that will be offered for lease.

fixed bed gasification -- a gasification process in which the raw material is fed as uniform-sized lumps and in which the gas moves through a nearly stationary bed of reacting fuel.

fluidized bed -- a bed of fine particles through which a fluid is passed with a velocity high enough for the solid particles to separate and become freely supported in the fluid.

fly up -- the possibility of a sudden, sharp increase in prices of natural gas decontrolled in 1985 under the Natural Gas Policy Act of 1978.

fossil fuels -- fuels that originated from the remains of plant, animal and sea life of previous geological eras. Crude oil, natural gas, coal, shale oil, tar sands, lignite and peat are fossil fuels.

FUA -- Powerplant and Industrial Fuel Use Act, passed in 1978, which extended the provisions of ESECA and set specific goals for replacing oil and gas-burning boilers with coal-fired power.

G

geopressured brine -- salt water, unusually hot and in some instances saturated with methane, contained under abnormally high pressure in some sedimentary rocks.

geothermal energy -- energy produced from heat deep in the earth, usually caused by underground water being heated as it flows through hot underground rocks.

glut -- an excess of supply over demand. In a market system, a glut of a product would cause producers' inventories to increase. The producers would lower the price to bring down their inventories until supply and demand were equal.

GNP -- gross national product. Total value at market prices of all goods and services produced by the nation's economy. Used as a measure of economic activity.

government lands -- lands owned by the federal government. See public lands.

greenhouse effect -- the theory that increasing concentrations of carbon dioxide in the atmosphere trap additional heat and moisture

and can, in time, create a hothouse effect, raising the temperature of the earth.

groundwater -- water in underground rock strata that supplies wells and springs.

H

H-Coal Process -- a direct coal liquefaction process that adds hydrogen and a catalyst to a coal slurry in a liquefaction vessel.

heavy oil -- crude petroleum characterized by high viscosity and a high carbon-to-hydrogen ratio. It is often difficult to produce heavy oil by conventional techniques, so more costly methods must be used.

heavy oil sands -- rocks containing viscous hydrocarbons (other than coal, oil shale or tar) that barely flow at reservoir conditions. Hydrocarbons in heavy oil sands flow more readily than those in tar sands but much less readily than those in lighter oil sands.

hopper car -- a freight car designed to carry bulk materials such as coal or grain. Its floor slopes to one or more hinged doors for rapid discharge.

hydrocarbons -- any of a large class of organic compounds containing only carbon and hydrogen. The molecular structure of hydrocarbon compounds varies from the simplest, methane (CH_4), to heavier and more complex molecules, such as octane (C_8H_{18}), a constituent of crude oil. Crude oil and natural gas are often referred to as hydrocarbons or hydrocarbon fuels.

hydroelectric power -- electric energy produced by harnessing falling water. In most cases, river water flowing through a dam turns a turbine that generates electricity.

I

incremental pricing -- a provision of the Natural Gas Policy Act of 1978 that requires natural gas price increases to be charged to large industrial users instead of residential users, until the price of gas reaches the price of an alternative fuel.

indirect coal liquefaction -- a method of making synfuels in which coal is first converted to synthetic gas, then catalyzed to produce hydrocarbons or methanol. Additional processing can convert methanol to gasoline.

interstate pipeline -- a pipeline carrying oil or natural gas across state lines. Interstate pipelines are regulated by the federal government.

intrastate natural gas market -- the market for natural gas produced and sold for delivery within a state, as opposed to sales across state lines. Intrastate markets had particular significance prior to passage of the Natural Gas Policy Act of 1978. Until that time, they were not regulated by the federal government, so prices reflected supply and demand rather than federal regulators' decisions.

in situ -- in its original place. Refers to methods of producing synfuels underground (underground gasification of a coal seam or heating oil shale underground to release the oil).

Iranian cutoff -- sharp reductions of Iranian oil supplies in world markets due to the events surrounding the 1979 Iranian revolution.

K

kerogen -- the hydrocarbon in oil shales.

L

lease offering (or lease sale) -- an area of land offered for lease usually by the U.S. Department of the Interior for the exploration for and production of specific natural resources such as oil and gas. An oil or gas lease conveys no title or occupancy rights, apart from the right to look for and produce petroleum subject to the conditions stated in the lease.

lignite (or lignite coal) -- a solid fuel of a higher grade than peat but a lower grade than bituminous coal. Lignite has a high content of moisture and volatile gases. Thus it is soft and has a relatively low heat content, at most 8,300 Btu per pound.

liquefied natural gas (LNG) -- natural gas that has been converted to a liquid by reducing its temperature to minus 260 degrees Fahrenheit at atmospheric pressure. Gas shipped by seagoing tankers is liquefied before being pumped into the ships and is regasified for pipeline transportation upon reaching its destination.

liquefied petroleum gases (LPG) -- hydrocarbon fractions lighter than gasoline, such as ethane, propane and butane. They are kept in a liquid state through compression and/or refrigeration and are marketed for various industrial and domestic gas uses. Commonly referred to as bottled gas.

M

market -- a context in which goods are bought and sold, not necessarily confined to a particular geographic location.

market forces -- pressures produced by the free play of supply and demand in a competitive market that induce adjustments in prices and quantities sold.

market system -- an economy that relies on market forces to allocate scarce resources, determine production techniques and price and distribute goods and services. Also referred to as a price system.

metallurgical coal -- a quality of coal used for making coke and steel. Low in ash and sulfur and strong enough to withstand handling. Usually composed of a blend of two grades of bituminous coal. Also called coking coal.

methanation -- the final step in high-Btu gas production in which hydrogen-rich gas reacts with carbon monoxide in the presence of a catalyst to form methane.

methane -- a light, odorless, flammable gas that is the chief constituent of natural gas.

methanol -- a one-carbon atom alcohol made from natural gas, coal or biomass. Also called methyl or wood alcohol.

mbde -- million barrels a day of oil equivalent.

mmcf -- million cubic feet. The cubic foot is a standard unit of measure for quantities of gas at atmosphere pressure.

miscible flooding -- an enhanced recovery method in which a fluid, usually carbon dioxide, is injected into a well and dissolves in the oil which then flows more easily to producing wells. Miscible substances will mix together to form a homogeneous mixture.

moratorium -- a formally announced suspension of a given type of activity, which can come either at the initiative of the organization(s) concerned or through the intervention of a legal authority.

N

National Ambient Air Quality Standards -- standards in the Clean Air Act that set maximum concentrations that should be allowed nationwide for air pollutants. Standards have been set for seven pollutants: carbon monoxide, hydrocarbons, lead, nitrogen dioxide, ozone, particulates and sulfur dioxide.

natural gas -- a mixture of hydrocarbon compounds and small amounts of various nonhydrocarbons (such as carbon dioxide, helium, hydrogen sulfide and nitrogen) existing in the gaseous phase or in solution with crude oil in natural underground reservoirs.

natural gas hydrates -- ice-like mixtures of methane and water, sometimes found in permafrost or in sediments beneath the ocean floor.

natural gas liquids (NGL) -- portions of natural gas that are liquefied at the surface in lease separators, field facilities or gas processing plants, leaving dry natural gas. They include, but are not limited to ethane, propane, butane, natural gasoline and condensate.

nonattainment areas -- regions of the country that do not meet the National Ambient Air Quality Standards of the Clean Air Act for one or more of the seven regulated air pollutants.

O

octane number -- a rating used to grade the relative anti-knock properties of various gasolines. A high octane fuel has better anti-knock properties than one with a low number.

offset policy -- policy that new industrial plants could not be built in nonattainment areas as defined by the Clean Air Act unless pollution from existing factories was reduced enough to compensate for the pollution expected from the new plant. Thus a company wanting to build in a nonattainment area must keep its own emissions down in that area or buy emissions offsets from other companies.

offshore platform -- a fixed structure from which wells are drilled offshore for the production of oil and natural gas.

oil shale -- a fine-grained, sedimentary rock that contains a solid substance, kerogen, which is partially formed oil. Kerogen can be extracted in the form of shale oil by heating the shale.

OPEC -- The Organization of Petroleum Exporting Countries, an international oil cartel that includes Saudi Arabia, Kuwait, Iran, Iraq, Venezuela, Qatar, Libya, Indonesia, United Arab Emirates, Algeria, Nigeria, Ecuador and Gabon.

Outer Continental Shelf (OCS) -- a gently sloping underwater plain that extends seaward from the coast. Technically, it includes only those lands between the end of state jurisdiction (3 miles in most areas, but about 10 miles for Texas and parts of Florida) and the 200-meter water depth. However, the term OCS is now used by the government and the petroleum industry to include both the continental shelf and the continental slope to the 2,500-meter water depth.

overthrust belt -- a geological system of faults and basins in which geologic forces have thrust layers of older rock above strata of newer rock that might contain oil or natural gas. The Eastern Overthrust Belt runs from eastern Canada through Appalachia into Alabama. The Western Overthrust Belt runs from Alaska through western Canada and the Rocky Mountains into Central America.

P

particulates -- tiny particles of soot, ash and other solids or liquids that are emitted into the air.

passive solar -- architectural designs in buildings that take advantage of site and building materials to enhance the amount of solar radiation turned into useful interior heat during cold periods and to minimize absorption of solar heat during warm periods.

permeability -- a measure of the capacity of a rock or stratem to allow water or other fluids such as oil to pass through it. (See porosity.)

petrochemicals -- chemicals derived from crude oil or natural gas, including ammonia, carbon black and thousands of organic chemicals.

petroleum -- strictly speaking, crude oil. In a broader sense it refers to all hydrocarbons, including oil, natural gas, natural gas liquids and related products.

photovoltaics -- the conversion of sunlight directly into electricity by means of solar cells.

plutonium -- a radioactive element that can be a raw material in the manufacture of nuclear weapons or a waste product of processes yielding atomic energy.

porosity -- a measure of the amount of void space or pores within rock that affects the amount of liquids and gases (such as crude oil and natural gas) that rock can contain.

Prevention of Significant Deterioration (PSD) areas -- areas that meet or exceed Clean Air Act standards for specific pollutants. Emissions in these areas are regulated so that the air quality does not deteriorate beyond certain levels.

price control -- setting limits on prices (usually maximum limits) by government order.

primary recovery -- extracting oil from a well by allowing only the natural water or gas pressure in the reservoir to force the petroleum to come to the surface, without pumping or other assistance. Also called flush production.

production -- a term commonly used for natural resources actually taken out of the ground.

proved reserves -- an estimate of the amount of oil or natural gas believed to be recoverable from known reservoirs under existing economic and operating conditions.

public lands -- any land or land interest owned by the federal government within the 50 states. The term does not include offshore federal lands nor lands held in trust for Indians and other native American groups.

pyrolysis -- application of heat to pulverized coal in the absence of air to break the coal molecules into liquids and gases.

R

R&D -- research and development.

reclamation -- restoring land to its original condition by regrading contours and replanting after the land has been mined, drilled or otherwise undergone alteration from its original state.

recoverable resources -- an estimate of resources, including oil and/or natural gas, both proved and undiscovered, that would be economically extractable under specified price-cost relationships and technological conditions.

refining -- manufacture of petroleum products by a series of processes that separate crude oil into its major components and blend or convert these components into a wide range of finished products, such as gasoline or kerosine.

rem -- a measure of radiation exposure, specifically the dosage of radiation that will cause the same amount of biological injury to human tissue as one roentgen of x-ray or gamma ray dosage. Usually used in fractional amounts, such as millirems (1 millirem = 0.001 rem).

rental -- the amount periodically paid by a leaseholder to a landowner for the right to use property for purposes set out in the lease.

reserve-production ratio (R/P ratio) -- a way of showing how many years it would take to use up the nation's proved reserves of oil and natural gas at current production levels. Such estimates do not include oil or gas that may be discovered in the future or resources known to exist but now regarded as uneconomic to produce.

reserve (pool) -- a porous and permeable underground formation of producible oil and/or natural gas, confined by impermeable rock or water barriers and characterized by a single natural pressure system.

residual fuel -- heavy oil used by utilities and industries for fuel.

retort -- any closed vessel or facility for heating a material to cause a chemical reaction.

retorting -- any of a variety of methods by which a carbonaceous material is heated, generally above 700 degrees Fahrenheit, to decompose the material into gases, oils, tars and carbon. Heat for retorting is obtained by burning a portion of the raw feed and/or fuels derived from the process. Oil shale is processed by retorting.

retrofitting -- see backfitting.

return on investment (rate of return) -- a measure of the profitability of a business enterprise. The general form is profit divided by investment, but the calculations can take many alternative forms. Investment can refer to stockholders' equity only or can also include long-term borrowed funds or all resources available to a company, that is total assets. Profits can be before or after corporate income taxes.

royalty -- a payment to a landowner or mineral rights owner (which can be a governmental body or private party) by a leaseholder on each unit of resource produced. Oil and natural gas royalties are usually paid in cash, as a percentage of the value of production. However, in some cases, the landowner or mineral rights owner receives a percentage of the actual petroleum produced.

S

SASOL -- South African Synthetic Oil Limited. A government-owned synthetic fuel facility located in Secunda, South Africa where South African coal is gasified and a broad range of synthetic fuels are produced.

scrubber -- a pollution control device in the stack of a coal-burning facility which uses liquid spray to remove pollutants, especially sulfur dioxide, from emissions. The process is called flue gas desulfurization.

sedimentary rock -- rock formed of sediments, usually deposited in a marine environment, such as shale or sandstone. Petroleum is found in sedimentary rock.

seismic exploration -- a method of prospecting for oil or gas by sending shock waves into the earth. Reflections of the shock waves

that bounce off rock strata are recorded on magnetic tape. The time it takes for the wave to return to the surface can be interpreted by experts to indicate the depth of specific strata and the composition of intermediate strata.

service well -- a well drilled in a known oil or natural gas field to inject liquids to enhance recovery, dispose of salt water or for purposes other than actual production.

severance tax -- a tax paid to a state by producers of mineral resources (including oil and gas) in the state. The tax is usually levied as a percent of the value of the oil or gas severed from the earth. It may also be expressed as a specific amount per barrel of oil or thousand cubic feet of gas.

shale oil -- the hydrocarbon substance produced from the decomposition of kerogen when oil shale is heated in an oxygen-free environment. Raw shale oil resembles a heavy, viscous, low-sulfur crude but can be upgraded to produce a good-quality sweet crude.

sludge -- in discussions of environmental controls, the mud-like residue that results from the cleaning process of scrubbers or certain other devices designed to prevent solid particulates from entering the environment.

solar thermal energy -- the use of the sun's heat for space heating (or, through refrigeration coils for cooling).

solvent refined coal (SRC) -- a coal extract derived through the use of solvents. Crushed coal is mixed in a solvent at high temperature and pressure in the presence of hydrogen. The process produces an ash and a sulfur free solid (SRC-I) or liquid (SRC-II). After processing, the ash is removed from the solvent and the solvent recycled.

sour crude oil -- crude oil that contains significant amounts of hydrogen sulfide. Often less valuable than sweet crude oil.

spent shale -- shale that is left over after kerogen (shale oil) has been removed.

state OCS jurisdiction -- the area where coastal states own mineral rights on offshore lands. In general, it is to three nautical miles out from shore, except off Texas and the Gulf Coast of Florida where the states own three leagues (about 10 nautical miles) out from shore.

steam coal -- a quality of coal used by utilities for generating steam to make electricity. Usually has a lower heat content than metallurgical coal.

stocks -- inventories. Widely used in the petroleum industry to designate inventories of crude oil and other oil products at refineries, bulk terminals and in pipelines.

strata -- layers of rock.

Strategic Petroleum Reserve (SPR) -- a stockpile of oil maintained by the United States. The United States government purchases crude oil and pumps it into underground salt domes for use in case of an import supply interruption, shortage or other emergency.

stratigraphic test -- a well drilled specifically to obtain detailed information on the composition of a rock formation that might lead to the discovery of oil or natural gas.

stripper gas well -- a well that produces an average of less than 60,000 cubic feet a day, measured over a 90-day period.

stripper oil well -- a well capable of producing no more than 10 barrels of oil a day. Nearly three-fourths of the oil wells in the United States are strippers. Together they account for one out of every seven barrels of oil produced.

subbituminous coal - coal ranked between bituminous and lignite in heat value and overall quality. It has a range of heat values between 8,300 and 11,500 Btu per pound.

sulfur dioxide emissions -- heavy, pungent, toxic gases released when fuel containing sulfur is burned.

sweet crude oil -- crude oil that is low in sulfur. Often more valuable than sour crude oil.

synthetic crude oil (syncrude) -- a crude oil derived from processing a carbonaceous material. Oil extracted from shale or unrefined oil from coal conversion plants are syncrudes.

synthetic gas -- gas made from solid hydrocarbons such as coal, oil shale or tar sands.

synthetic fuels (synfuels) -- fuels that are produced through complex chemical conversions of such natural fossil substances as coal and oil shale. Synthetic fuels are comparable in chemical structure and energy value to oil products and natural gas.

T

tanker -- ocean-going ship specially designed for carrying crude oil and other liquid petroleum products.

tar sands -- rocks containing highly viscous hydrocarbons (other than coal or oil shale) that are not recoverable by primary production methods. That is, the hydrocarbons in tar sands cannot readily move as a fluid under their own reservoir energy. The hydrocarbons in heavy oil sands, in contrast, will flow slowly under their own reservoir energy.

therm -- a measure of heat content. One therm equals 100,000 British thermal units.

thermal recovery -- an enhanced recovery method using heat to thin oils that are too thick to flow to producing wells. One method uses the heat created by injecting oxygen and starting a fire in the well. Another consists of injecting steam.

tight reservoirs -- soil or rock formations with low permeability to oil, water or natural gas.

trans Alaska pipeline -- a crude oil pipeline from the North Slope of Alaska above the Arctic Circle to the ice-free port of Valdez in southern Alaska.

tcf -- trillion cubic feet. The cubic foot is a standard unit of measure for quantities of gas at atmospheric pressure.

U

undiscovered recoverable resources -- resources outside of known fields, estimated from broad geologic knowledge and theory.

unit train -- a train of at least 100 cars specially designed to haul and unload coal.

V

viscosity -- the measure of a liquid's internal friction or of its resistance to flow.

W

waterflooding -- the most common enhanced recovery method (usually referred to as secondary recovery). Water is pumped into an oil reservoir to push the oil toward producing wells. This method of recovery is often used after a field's own internal pressure is no longer sufficient to provide adequate oil production.

water quality standards -- standards adopted by states under the Clean Water Act for quantities of pollution allowed in water bodies. Water quality standards are not the major method of pollution control under the Clean Water Act, which primarily designates required control technology rather than particular standards of water quality.

wetlands -- lands with very moist soil, such as tidal flats or swamps.

wildcatter -- an operator who drills the first well in unproven territory.

wilderness land -- land withdrawn from development by Congress in order to preserve its pristine characteristics as set forth in the National Wilderness Preservation System Act of 1964.

windfall profit tax -- a U.S. tax on crude oil production (actually an excise tax rather than a tax on profits). The tax is a specified percentage of the difference between the sales price in the field and a base price established by the government for each of various oil categories. The percentage and the base price both vary depending on how a given field had been treated under price control regulations. The base prices are automatically increased each year.

withdrawal of government lands -- restricting the use of government lands by holding them for specific public purposes. Such restrictions virtually always include prohibition of exploration for and production of oil, natural gas or other minerals.